

AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in the present application.

Listing of Claims:

Claims 1-28 (canceled).

29 (currently amended). An antibody which binds a vertebrate Delta protein, which vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC; and which antibody does not bind a *Drosophila* Delta protein.

30 (currently amended). An antibody, which binds a human Delta protein, which human Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:14 and SEQ

ID NO:26 SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, and the antisense sequence to SEQ ID NO:26, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC; which antibody does not bind a *Drosophila* Delta protein.

31 (previously presented). The antibody of claim 29 or 30 which is monoclonal.

32 (previously presented). A molecule comprising a fragment of the antibody of claim 31, which fragment binds a vertebrate Delta protein.

Claims 33-59 (canceled).

60 (currently amended). A composition comprising an antibody which binds to a vertebrate Delta protein; and a pharmaceutically acceptable carrier, which vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon

sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC; and which antibody does not bind a *Drosophila* Delta protein.

61 (currently amended). A composition comprising a fragment of an antibody to a vertebrate Delta protein containing the binding domain of the antibody; and a pharmaceutically acceptable carrier, which vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC; and which antibody does not bind a *Drosophila* Delta protein.

Claims 62-98 (canceled).

99 (currently amended). The antibody of claim 29, in which the vertebrate Delta protein comprises an amino acid sequence selected from the group consisting of (i)

SEQ ID NO:2, (ii) SEQ ID NO:12, and (iii) SEQ ID NOS:65, 66, 70-78 and 80 SEQ ID NO:23, and (iv) a sequence comprising SEQ ID NOS:65-80.

100 (previously presented). The composition of claim 60 or 61, in which the antibody is monoclonal.

101 (previously presented). A fragment of the antibody of claim 29 or 30, which fragment binds the vertebrate Delta protein.

102 (currently amended). The antibody of claim 29, 30 or 99 ~~29, 30, 31 or 99~~, which antibody is purified.

103 (previously presented). The fragment of claim 101, which fragment is purified.

104 (previously presented). The molecule of claim 32, which molecule is purified.

105 (currently amended). The antibody of claim 29, in which the vertebrate Delta protein comprises SEQ ID NOS:65, 66, 70-78 and 80 SEQ ID NOS:65-80.

Claim 106 (canceled).

107 (currently amended). The antibody of claim 29, in which the nucleotide sequence of the second nucleic acid is selected from the group consisting of SEQ ID NO:14 and SEQ ID NO:26 ~~SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, and the antisense sequence to SEQ ID NO:26~~.

108 (currently amended). The antibody of claim 29, in which the nucleotide sequence of the second nucleic acid is ~~selected from the group consisting of SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~.

109 (currently amended). A method of making an antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a host animal, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the

nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC; such that an antibody to said Delta protein is produced by said host animal; and

(b) recovering the antibody.

110 (currently amended). The method of claim 109, in which the vertebrate Delta protein comprises SEQ ID NOS:65, 66, 70-78 and 80 ~~SEQ ID NOS:65-80~~.

Claim 111 (canceled).

112 (previously presented). The method of claim 109, in which the vertebrate Delta protein comprises SEQ ID NO:12.

113 (currently amended). The method of claim 109, in which the nucleotide sequence of the second nucleic acid is selected from the group consisting of SEQ ID NO:14 and SEQ ID NO:26 ~~SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, and the antisense sequence to SEQ ID NO:26~~.

114 (currently amended). A method of making an antibody comprising:

(a) administering an immunogenic amount of a fragment of a vertebrate Delta protein to a host animal, in which the fragment comprises a domain of the protein selected from the group consisting of the extracellular domain, DSL domain, domain amino-terminal to the DSL domain, epidermal growth factor-like repeat 1, epidermal growth factor-like repeat 2 repeat domain, transmembrane domain, and intracellular domain, in which the vertebrate Delta protein comprises an amino acid sequence encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC; such that an antibody to said fragment is produced by said host animal; and

(b) recovering the antibody.

115 (currently amended). The method of claim 114, in which the fragment of the vertebrate Delta protein further comprises the membrane-associated region of the vertebrate Delta protein.

116 (currently amended). The method of claim 114, in which the fragment of

the vertebrate Delta protein comprises ~~an epidermal growth factor-like factor-homologous repeat 1 or epidermal growth factor-like repeat 2~~ of the vertebrate Delta protein.

117 (previously presented). The method of claim 114, in which the fragment of the vertebrate Delta protein consists of at least 20 contiguous amino acids of the vertebrate Delta protein.

118 (previously presented). The method of claim 114, in which the fragment of the vertebrate Delta protein lacks the transmembrane and intracellular domain of the vertebrate Delta protein.

119 (previously presented). The method of claim 114, in which the fragment of the vertebrate Delta protein lacks the extracellular domain of the vertebrate Delta protein.

120 (previously presented). The method of claim 114, in which the fragment of the vertebrate Delta protein lacks the epidermal growth factor-like repeats of the vertebrate Delta protein.

121 (previously presented). An antibody produced by the method of claim 109, which does not bind a *Drosophila* Delta protein.

122 (previously presented). An antibody produced by the method of claim 114, which does not bind a *Drosophila* Delta protein.

123 (previously presented). The antibody of claim 121 or 122, in which the antibody is monoclonal.

124 (currently amended). The antibody of claim 121 or 122 ~~121, 122 or 123~~, in which the antibody is purified.

125 (previously presented). A composition comprising an amount of an antibody of claim 121, 122, 123 or 124, and a pharmaceutically acceptable carrier.

126 (currently amended). The method of claim 109 or 114, in which the vertebrate Delta protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:12, ~~SEQ ID NO:23~~, and a sequence comprising SEQ ID

NOS:65, 66, 70-78 and 80 SEQ ID NOS:65-80.

Claim 127 (canceled).

128 (currently amended). The method of claim 109 or 114, in which the vertebrate Delta protein comprises SEQ ID NOS:65, 66, 70-78 and 80 SEQ ID NOS:65-80.

129 (currently amended). A method of making an antibody comprising:

(a) administering an immunogenic amount of a protein comprising a fragment of a vertebrate Delta protein to a host animal, in which the fragment comprises a domain of the protein selected from the group consisting of the extracellular domain, DSL domain, domain amino-terminal to the DSL domain, epidermal growth factor-like repeat 1, epidermal growth factor-like repeat 2 repeat domain, transmembrane domain, and intracellular domain, in which the vertebrate Delta protein comprises an amino acid sequence encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC; such that an antibody to said Delta fragment is produced by said host animal; and

(b) recovering the antibody.

130 (previously presented). The method according to claim 129, in which the fragment of the vertebrate Delta protein is joined via a peptide bond to an amino acid sequence of a second protein, in which the second protein is not the vertebrate Delta protein.

131 (currently amended). A method of making a monoclonal antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a mouse, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24
~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC;

(b) recovering spleen cells from said mouse;

(c) fusing the recovered spleen cells with a cell of a mouse myeloma to generate hybridomas;

(d) screening to select a hybridoma producing antibody to said vertebrate

Delta protein; and

(e) recovering the antibody.

132 (currently amended). A method of making a monoclonal antibody comprising:

(a) fusing a spleen cell from a mouse immunized with an immunogenic amount of a vertebrate Delta protein with a cell of a mouse myeloma to generate hybridomas, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC;

(b) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(c) recovering the antibody.

133 (currently amended). A method of making a monoclonal antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a host animal, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC;

(b) recovering lymphocytes from said host animal;

(c) fusing the recovered lymphocytes with a cell of a myeloma, plastocytoma or lymphoblastoid cell line to generate hybridomas;

(d) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(e) recovering the antibody.

134 (currently amended). A method of making a monoclonal antibody comprising:

(a) fusing a lymphocyte from a host animal immunized with an immunogenic amount of a vertebrate Delta protein with a cell of a myeloma, plastocytoma or

lymphoblastoid cell line to generate hybridomas, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC;

(b) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(c) recovering the antibody.

135 (currently amended). A method of making a monoclonal antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a host animal, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID

NO:24 SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC;

- (b) recovering lymphocytes from said host animal;
- (c) immortalizing the recovered lymphocytes with Epstein-Barr virus to generate immortalized cells;
- (d) screening to select an immortalized cell producing antibody to said vertebrate Delta protein; and
- (e) recovering the antibody.

136 (currently amended). A method of making a monoclonal antibody comprising:

(a) immortalizing a lymphocyte from a host animal immunized with an immunogenic amount of a vertebrate Delta protein with Epstein-Barr virus to generate immortalized cells, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under high stringency conditions to a second nucleic acid, or its complement, the nucleotide sequence of the second nucleic acid being selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:11, SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:1, the antisense sequence to SEQ ID NO:1, SEQ ID NO:3, the~~

antisense sequence to SEQ ID NO:3, SEQ ID NO:11, the antisense sequence to SEQ ID NO:11, SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24, said high stringency conditions comprising pretreatment for 8 hours to overnight in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 500 µg/ml denatured salmon sperm DNA; hybridization for 48 hours at 68°C in a solution containing 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA; washing for 1 hour at 37°C in a solution containing 2X SSC, 0.01% PVP, 0.01% Ficoll, and 0.01% BSA; and a second washing for 45 minutes at 50°C in a solution containing 0.1X SSC;

(b) screening to select an immortalized cell producing antibody to said vertebrate Delta protein; and

(c) recovering the antibody.

Claim 137 (canceled).

138 (currently amended). The method of claim 131, 132, 133, 134, 135 or 136, in which the nucleotide sequence of the second nucleic acid is selected from the group consisting of SEQ ID NO:14, SEQ ID NO:26 and SEQ ID NO:24 ~~SEQ ID NO:14, the antisense sequence to SEQ ID NO:14, SEQ ID NO:26, the antisense sequence to SEQ ID NO:26, SEQ ID NO:24, and the antisense sequence to SEQ ID NO:24~~.

139 (currently amended). The method of claim 131, 132, 133, 134, 135 or 136, in which the vertebrate Delta protein comprises ~~SEQ ID NOS:65, 66, 70-78 and 80~~ SEQ ID NOS:65-80.

Claim 140 (canceled).

141 (previously presented). The method of claim 131, 132, 133, 134, 135 or 136, in which the Delta protein comprises SEQ ID NO:12.

142 (previously presented). An antibody produced by the method of claim

131, 132, 133, 134, 135 or 136, which does not bind a *Drosophila* Delta protein.

143 (previously presented). The antibody of claim 142, in which the antibody is purified.

144 (previously presented). A composition comprising the antibody of claim 142, and a pharmaceutically acceptable carrier.

145 (previously presented). A composition comprising the antibody of claim 143, and a pharmaceutically acceptable carrier.

146 (currently amended). The composition of claim 60 or 61, in which the vertebrate Delta protein comprises an amino acid sequence selected from the group consisting of (i) SEQ ID NO:2, (ii) SEQ ID NO:12, and (iii) ~~SEQ ID NO:23, and (iv) a sequence comprising SEQ ID NOS:65-80~~ SEQ ID NOS:65, 66, 70-78 and 80.

Claims 147-151 (canceled).

152 (previously presented). An antibody which binds a human Delta protein, which human Delta protein comprises SEQ ID NO:65; and which antibody does not bind a *Drosophila* Delta protein.

153 (previously presented). A composition comprising (a) an antibody to a vertebrate Delta protein, which vertebrate Delta protein comprises SEQ ID NO:65, which antibody does not bind a *Drosophila* Delta protein; and (b) a pharmaceutically acceptable carrier.

154 (previously presented). A composition comprising (a) a fragment of an antibody to a vertebrate Delta protein containing the binding domain of the antibody, which vertebrate Delta protein comprises SEQ ID NO:65, which antibody does not bind a *Drosophila* Delta protein; and (b) a pharmaceutically acceptable carrier.

155 (previously presented). A method of making an antibody comprising:
(a) administering an immunogenic amount of a vertebrate Delta protein to a host animal, such that an antibody to said Delta protein is produced by said host animal, in

which the vertebrate Delta protein comprises SEQ ID NO:65; and

(b) recovering the antibody.

156 (currently amended). A method of making an antibody comprising:

(a) administering an immunogenic amount of a fragment of a vertebrate Delta protein to a host animal, such that an antibody to said fragment is produced by said host animal; in which the fragment comprises a domain of the protein selected from the group consisting of the extracellular domain, DSL domain, domain amino-terminal to the DSL domain, epidermal growth factor-like repeat 1, epidermal growth factor-like repeat 2 ~~repeat domain, transmembrane domain~~, and intracellular domain; in which the vertebrate Delta protein comprises SEQ ID NO:65; and

(b) recovering the antibody.

157 (currently amended). A method of making an antibody comprising:

(a) administering an immunogenic amount of a protein comprising a fragment of a vertebrate Delta protein to a host animal, such that an antibody to said Delta fragment is produced by said host animal; in which the fragment comprises a domain of the protein selected from the group consisting of the extracellular domain, DSL domain, domain amino-terminal to the DSL domain, epidermal growth factor-like repeat 1, epidermal growth factor-like repeat 2 ~~repeat domain, transmembrane domain~~, and intracellular domain; in which the vertebrate Delta protein comprises SEQ ID NO:65; and

(b) recovering the antibody.

158 (previously presented). A method of making a monoclonal antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a mouse, which vertebrate Delta protein comprises SEQ ID NO:65;

(b) recovering spleen cells from said mouse;

(c) fusing the recovered spleen cells with a cell of a mouse myeloma to

generate hybridomas;

(d) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(e) recovering the antibody.

159 (previously presented). A method of making a monoclonal antibody comprising:

(a) fusing a spleen cell from a mouse immunized with an immunogenic amount of a vertebrate Delta protein with a cell of a mouse myeloma to generate hybridomas, which vertebrate Delta protein comprises SEQ ID NO:65;

(b) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(c) recovering the antibody.

160 (previously presented). A method of making a monoclonal antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a host animal, in which the vertebrate Delta protein comprises SEQ ID NO:65;

(b) recovering lymphocytes from said host animal;

(c) fusing the recovered lymphocytes with a cell of a myeloma, plastocytoma or lymphoblastoid cell line to generate hybridomas;

(d) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(e) recovering the antibody.

161 (previously presented). A method of making a monoclonal antibody comprising:

(a) fusing a lymphocyte from a host animal immunized with an immunogenic amount of a vertebrate Delta protein with a cell of a myeloma, plastocytoma or

lymphoblastoid cell line to generate hybridomas, which vertebrate Delta protein comprises SEQ ID NO:65;

(b) screening to select a hybridoma producing antibody to said vertebrate

Delta protein; and

(c) recovering the antibody.

162 (previously presented). A method of making a monoclonal antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a host animal, which vertebrate Delta protein comprises SEQ ID NO:65;

(b) recovering lymphocytes from said host animal;

(c) immortalizing the recovered lymphocytes with Epstein-Barr virus to generate immortalized cells;

(d) screening to select an immortalized cell producing antibody to said vertebrate Delta protein; and

(e) recovering the antibody.

163 (previously presented). A method of making a monoclonal antibody comprising:

(a) immortalizing a lymphocyte from a host animal immunized with an immunogenic amount of a vertebrate Delta protein with Epstein-Barr virus to generate immortalized cells, which vertebrate Delta protein comprises SEQ ID NO:65;

(b) screening to select an immortalized cell producing antibody to said vertebrate Delta protein; and

(c) recovering the antibody.

164 (previously presented). The antibody of claim 29, in which the vertebrate Delta protein comprises SEQ ID NO:12.

165 (previously presented). The composition of claim 60 or 61, in which the

vertebrate Delta protein comprises SEQ ID NO:12.

166 (currently amended). The composition of claim 60 or 61, in which the nucleotide sequence of the second nucleic acid is ~~SEQ ID NO:24 or the antisense sequence to~~ SEQ ID NO:24.

167 (new). The method of claim 114, 129, 156 or 157, in which the fragment of the vertebrate Delta protein comprises the DSL domain.

168 (new). The antibody of claim 31, in which the antibody is purified.

169 (new). The antibody of claim 123, in which the antibody is purified.